IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A reactor for preparing chlorine from hydrogen chloride by gas-phase oxidation with oxygen in the presence of a heterogeneous catalyst comprising a fluidized bed, with gas-permeable plates being located in the fluidized bed transverse to the flow direction of gas through the fluidized bed, wherein the gas-permeable plates are connected in a thermally conductive manner to a heat exchanger located in the fluidized bed, [[and]] wherein the heat exchanger has tubes which run horizontally in the fluidized bed and are connected to the gas-permeable plates, wherein the thermal conductivity of the gas-permeable plates is greater than the thermal conductivity of the fluidized bed, and wherein the gas-permeable plates rest on the horizontal tubes or the horizontal tubes are integrated into the gas-permeable plates.

Claim 2 (Canceled).

Claim 3 (Previously Presented): A reactor according to claim 2, wherein the horizontal tubes connect vertical heat exchanger tubes of a shell-and-tube heat exchanger .

Claim 4 (Previously Presented): A reactor according to claim 1, wherein the gas-permeable plates connect vertical plates of a plate heat exchanger to one another.

Claim 5 (Previously Presented): A reactor according to claim 1, wherein channels or tubes through which a heat transfer medium flows run through the gas-permeable plates.

Claim 6 (Previously Presented): A reactor according to claim 1, wherein perforated plates are used as gas-permeable plates.

Claim 7 (Previously Presented): A reactor according claim 1, wherein ordered or unordered mesh structures are used as gas-permeable plates.

Claim 8 (Previously Presented): A reactor according to claim 1, which additionally comprises a windbox and a gas distributor adapted for introducing hydrogen chloride and oxygen into the fluidized bed.

Claim 9 (Previously Presented): A reactor according to claim 8, wherein at least one perforated plate is used as gas distributor.

Claim 10 (Previously Presented): A reactor according to claim 8, wherein at least one plate provided with gas distributor nozzles is used as gas distributor.

Claim 11 (Previously Presented): A reactor according to claim 8, wherein an impingement device is located in the windbox above a gas inflow opening.

Claim 12 (Original): A reactor according to claim 11, wherein the impingement device is a flat, round-domed or funnel-shaped metal sheet arranged transverse to the inflow direction.

Claim 13 (Previously Presented): A reactor according to claim 1, wherein a granular fluidized-bed material comprising the heterogeneous catalyst is used to form the fluidized bed.

Claim 14 (Previously Presented): A reactor according to claim 8, wherein the interior walls of the reactor, gas-permeable plates, heat exchanger surfaces, interior walls of the windbox and the gas distributor are made of steel or nickel alloys.

Claim 15 (Previously Presented): A reactor according to claim 8, wherein the gas distributor is made of a ceramic material.

Claim 16 (Previously Presented): A process for preparing chlorine from hydrogen chloride by gas-phase oxidation with oxygen comprising feeding hydrogen chloride and oxygen to a reactor, carrying out said gas-phase oxidation in the reactor, and removing chlorine from the reactor, wherein the reactor is a reactor according to claim 1.

Claim 17 (Previously Presented): A reactor according to claim 1, wherein the interior walls of the reactor, gas-permeable plates, and heat exchanger surfaces are made of steel or nickel alloys.

Claim 18 (Previously Presented): A reactor according to claim 1, wherein the gas-permeable plates have individual openings in the range of 10 to 1000 mm^2.

Claim 19 (Previously Presented): A reactor according to claim 1, wherein the gas-permeable plates have a spacing of from 20 to 50 cm.